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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,621	08/05/2003	Takehiko Hamaguchi	520.43013X00	5368
20457	7590	11/18/2004	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889			MERCEDES, DISMERY E	
			ART UNIT	PAPER NUMBER
			2651	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/633,621	Applicant(s) HAMAGUCHI ET AL.	
	Examiner Dismery E Mercedes	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-12 is/are rejected.
- 7) ☒ Claim(s) 5,13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

The information disclosure statement filed with the application fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because of the reason below. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

The information disclosure statement filed with the application fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

The separate paper filed with the application listing documents cited in the specification is also not a proper listing, since the paper does not properly identify the documents by

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publication date. It is also noted that in addressing this matter, applicant should use an appropriate PTO-1449 form or similar form.

Drawings

2. Figures 3-7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: for example, "mechanism 5 or mechanism 83, and reference table 72, heat element 4, and write element 3" of FIG.2; "disk 12, offsetting mechanism 5, write element 22" of FIG.9. Please revise the drawings and the specification and verify that all the reference signs mentioned in the description are included in the drawings or vice versa. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

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applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: for example, “26,19,13,20,15,14” of FIG.2; “103” of FIG.10A; “1207,1208” of FIG.12; 1303, 1305, 1306, 1302, 1301” of FIG. 13. Please revise all drawings and the specification, and verify that all reference characters in the drawings are mentioned in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “elastic member deformed (of claim 6)” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing

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sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 1-4, 8, 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art, hereinafter AAPA in view of Boutaghou et al. (US 6,275,454).

AAPA discloses a magnetic disk apparatus comprising: disk holding data by magnetic information on a magnetic recording film (as depicted in FIG.6, "31"; and FIG.7); a magnetic head (as depicted in FIG.7, "71") with a slider having a heat element (FIG.7, "72") to locally heat a said magnetic disk, a write element (FIG.6, "53" page 3 of the spec, lines 12-14 & FIG.7,

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“74”) to apply a magnetic field modulated by an electric signal to an area heated by the heat element, and a read element (FIG.7, “73”; and FIG.6, “54” page 3 of the spec, lines 15-17) to convert the magnetic information on said magnetic disk into an electric signal; an actuator (FIG.6, “13”) to move said magnetic head along a circular-arc in a radial direction of the magnetic disk. AAPA fails to explicitly disclose an offsetting mechanism that relatively moves a position of the area heated by said heat element and a position of said write element in a width direction of said slider.

However, Boutaghou et al. discloses an offsetting mechanism that relatively moves a position of the area heated by said heat element and a position of said write element in a width direction of said slider (col.3, lines 18-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an offsetting mechanism as taught by Boutaghou et al., because it would provide the apparatus taught by AAPA with the enhanced capability of a method of radially positioning the focal point of the lens of a disk drive and selectively positioning the lens relative to the slider to selectively alter the radial position of the focal point relative to the recording surface (see Boutaghou et al., col. 2, lines 41-51).

As to Claim 2, the disclosure of AAPA and Boutaghou et al. are incorporated herein. The combination further discloses the offsetting mechanism is a heat area offsetting mechanism to move the area heated by said heat element in the width direction of the slider (col.3, lines 36-65, Figures 1-3 of Boutaghou et al.).

As to Claim 3, the disclosure of AAPA and Boutaghou et al. are incorporated herein. The combination further discloses offsetting mechanism is a write element offsetting mechanism to

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move said write element in the width direction of the slider (col.3, lines 36-65, Figures 1-3 of Boutaghou et al.).

As to Claim 4, the combination further discloses a servo circuit that controls said offsetting mechanism so as to move the area heated by said heat element and said write element through the same track (FIG.6, "16", page 3, line 23 - page 4, line 5 of the instant specification, of AAPA).

As to Claim 8, the disclosure of AAPA and Boutaghou et al. are incorporated herein. The combination further discloses the magnetic disk apparatus of claim 4, wherein offsetting mechanism has a capacitance actuator [microactuator] (col.1, line 55 of Boutaghou et al.).

As to Claims 10 and 11, the disclosure of AAPA and Boutaghou et al. are incorporated herein. The combination further discloses heating light element movable by said offsetting mechanism and a mirror movable by said offsetting mechanism (col.2, lines 27-34 and col.3, lines 52-65, FIG.3).

As to Claim 12, the disclosure of AAPA and Boutaghou et al. are incorporated herein. The combination further discloses that the servo circuit and said offsetting mechanism are connected with at least two drive lines (this would inherently be true since the AAPA includes a control supply line 16 for controlling the rotary actuator of the servo circuit and the micro actuator of Boutaghou et al.'s offsetting mechanism requires a control supply line.).

8. Claims 6, 7, 9 are rejected as being unpatentable over Applicant's Admitted Prior Art, hereinafter AAPA in view of Boutaghou et al. (US 6,275,454) as applied to claim 4 above, and further in view of Boutaghou, hereinafter, Boutaghou_1 (US 6,507,463 B1).

As to Claims 6 & 9, the combination of AAPA and Boutaghou et al. discloses servo circuit drives offsetting mechanism to move the area heated by said heat element or said write element in the width direction of said slider. The combination fails to disclose offsetting mechanism comprises a piezo element (claim 6) or heat deformation element (claim 9) and an elastic member deformed by the piezo element or heat deformation element.

However, Boutaghou_1 discloses offsetting mechanism comprises a piezo element, i.e., a heat deformation element, and an elastic member deformed by the piezo element (on col.1, lines 43-46).

Therefore, it would have been further obvious to one of ordinary skill in the art at the time of the invention to implement Boutaghou_1's mechanism, in the magnetic disk apparatus as taught by AAPA and Boutaghou et al., because it would provide the apparatus with the enhanced capability of moving the transducing head across tracks of the disc, thus achieving high resolution head positioning (col.1, lines 33-35, and 46-47 of Boutaghou_1).

As to Claim 7, the combination of AAPA and Boutaghou et al. discloses a servo circuit drives offsetting mechanism to move the area heated by said heat element or said write element in the width direction of said slider. The combination fails to disclose offsetting mechanism offsetting mechanism has a voice coil motor.

However, Boutaghou_1 discloses it is common in the art to use an offsetting mechanism that has a voice coil motor (col.1, lines 19-24).

Therefore, it would have been further obvious to one of ordinary skill in the art at the time of the invention to implement an offsetting mechanism that has a voice coil motor as taught by Boutaghou_1, in the apparatus taught by AAPA and Boutaghou et al., because it would

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provide such apparatus with the capability of obtaining more precise radial positioning of the transducing head, thus increasing density of concentric data tracks on magnetic and polymeric recording disks (col.1, lines 17-22 of Boutaghou_1).

Allowable Subject Matter

9. Claims 5, 13-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding Claim 5 is allowable over prior art of record as the prior art does not disclose or suggest *servo circuit generates an electric output with an offset amount of said offsetting mechanism corresponding to a yaw angle of said magnetic head and a temperature in the magnetic disk.*

Regarding Claim 13, is allowable over prior art of record as the prior art does not disclose or suggest claim 4, in combination with a *conversion table between an output value to said offsetting mechanism and a movement distance of the area heated by said heat element or said write element in the width direction of the slider, wherein said servo circuit refers to said conversion table to determine the output value in accordance with a position of said magnetic head in a radial direction of said magnetic disk.*

Regarding Claim 14, is allowable over prior art of record as the prior art does not disclose or suggest claim 13.

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Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Koganezawa et al. (US 2001/0033452 A1) for disclosing a head assembly employing microactuator in recording medium drive.
- Takeshi (JP publication no. 11213419) for disclosing an optical head, and optical recording and reproducing device.
- Satoru (JP publication no. 2002-208151) for disclosing an optical head device and optical recording/reproducing device.
- Hatam-Tabrizi et al. (US 6,324,130) for disclosing a disc drive suspension and head.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dismery E Mercedes whose telephone number is 703-306-4082. The examiner can normally be reached on Monday - Friday, from 9:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 703-305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dismery E Mercedes
Examiner
Art Unit 2651

DM



W. R. YOUNG
PRIMARY EXAMINER